



A RIGOROUS EXAMINATION OF CASE-BASED LEARNING AS A PEDAGOGICAL SUBSTITUTION FOR THE APPLIED PHYSIOLOGY OUTPATIENT DEPARTMENT WITHIN THE COMPETENCY-BASED DYNAMIC CURRICULUM FOR FIRST-YEAR BHMS STUDENTS: IMPLICATIONS FOR THE EVOLUTION OF MEDICAL EDUCATION

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ABSTRACT

Aims and Objectives:

This study aims to evaluate the effectiveness of replacing the Applied Physiology Outpatient Department (OPD) with Case-Based Learning (CBL) for first-year BHMS students in the Competency-Based Dynamic Curriculum (CBDC), enhancing student learning outcomes.

Materials and Methods:

A survey was conducted among 328 first-year BHMS students from the 2022-23, 2023-24, and 2024-25 batches, the first two batches had participated in the Applied Physiology OPD. Feedback was gathered via a Google form to assess advantages of the Case Based Learning (CBL) in the curriculum.

Results and Discussion:

Students reported that CBL significantly improved their critical thinking and clinical reasoning skills. They found the learning process more engaging and felt it helped them connect theoretical knowledge with clinical practice. Applied Physiology OPD did have some limitations in terms of learning. The majority preferred CBL citing its structured, interactive approach and its ability to foster deeper learning and self-directed exploration.

Conclusion:

The findings (52.5 % Students preferred Applied Physiology to be scrapped in First BHMS) indicate that replacing the Applied Physiology OPD with a 90-hour CBL program within the CBDC framework could significantly enhance the integration of theoretical knowledge with clinical practice. This shift may promote deeper cognitive engagement, foster critical thinking, and improve clinical reasoning skills, aligning more closely with the evolving educational needs of first-year BHMS students. Further investigation is warranted to assess the long-term impact of this change on student learning outcomes.

INTRODUCTION

The NCH (National Council of Homeopathy) has included Applied Physiology Outpatient Department (OPD) in the Competency-Based Dynamic Curriculum (CBDC) for 90 hours in the second and third semesters to teach physiology in homeopathy, specifically in the first year of Bachelor of Homeopathic Medicine and Surgery. While this approach gives students some clinical experience, it lacks the potential to create a deeper grasp of physiological concepts and their clinical implications. Furthermore, first-year BHMS students may not have the required clinical skills or critical thinking ability to effectively engage with the intricacies of patient interactions in an OPD context.

In contrast, Case-Based Learning (CBL) is “active learning method based on instruction by the use of stories about individuals facing decisions or dilemmas.”¹ CBL is one method where students are motivated to learn on their own so as to inculcate the habit of self-learning and integrating knowledge from different subjects to solve problems.²

Nutrition-related case based learning has enhanced the cognitive domain scores of first year medical students.³ Given the dense medical curriculum and need for efficient use of student and faculty time, CBL offers an alternative model to traditional PBL (Problem based learning) small-group teaching.⁴

CBL stands out as a promising tool for promoting meaningful learning and preparing students for lifelong self-directed learning.⁵ Clinical case based modules not only served to enhance students’ skill in tackling case based items, but also developed their critical thinking and higher ordered learning such that they became more adept at solving non case based items.⁶ It is the need of the hour to deviate from the standard teaching practices and embrace concepts such as CBL.⁷

This article proposes the replacement of the Applied Physiology OPD with Case-Based Learning (CBL) for 90 hours in the CBDC for first-year BHMS students, emphasising the benefits of this methodology in enhancing student learning outcomes. Currently, Applied Physiology OPD is used in the first-year

BHMS curriculum to allow students to apply the-oretical knowledge in a clinical setting. Students attend outpatient departments under faculty supervision to observe patients with various physiological conditions.

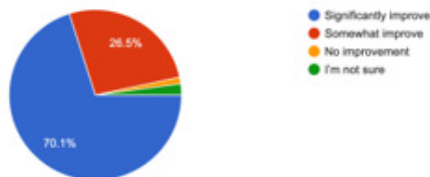
MATERIALS AND METHODS

No method can be assessed without student feedback. A survey was conducted among 274 first-year BHMS students from the 2022-23, 2023-24, and 2024-25 batches, who were introduced

to the Applied Physiology OPD in their curriculum. The students were asked to provide feedback on their experiences through a Google form shared via their class WhatsApp group. Of these students, the first two batches had already undergone the OPD sessions, and their responses were particularly valuable in evaluating the existing teaching method. The survey included questions related to their opinions on the potential benefits of CBL as an alternative. The results were analyzed to gauge student prefer-ences for CBL in their physiology education.

RESULTS

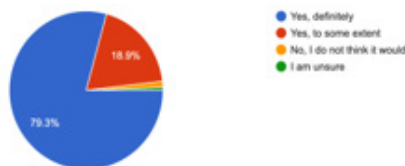
In your opinion, how would CBL help improve your critical thinking and clinical reasoning skills?
328 responses



What other teaching methods do you think could complement CBL for better learning outcomes?
328 responses



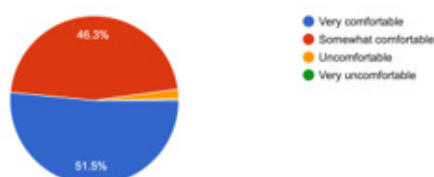
Do you believe Case-Based Learning (CBL) would help you better understand physiological concepts?
328 responses



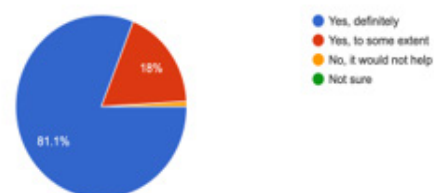
Do you think that Case-Based Learning (CBL) will make learning more engaging for you?
328 responses



How comfortable would you be in discussing and solving clinical cases early in your BHMS course (first year)?
328 responses



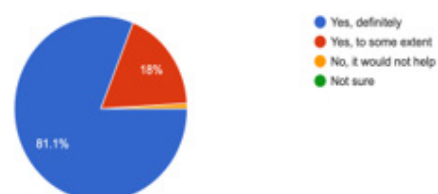
Would CBL sessions allow you to better connect theoretical knowledge with clinical practice?
328 responses



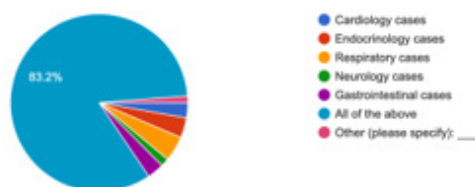
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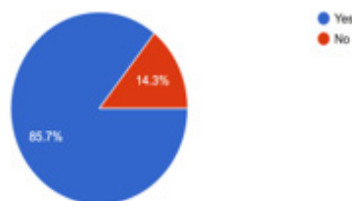
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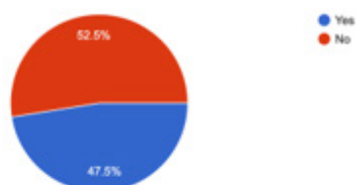
What type of cases would you prefer to be included in CBL sessions for better understanding of physiology?
328 responses



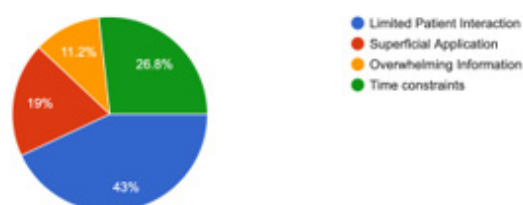
Do you have enough time for all other Physiology Practicals in the First BHMS CBDC course?
112 responses



Do you feel that Applied Physiology OPD should be scrapped from 1st BHMS and started from 2nd BHMS and instead Case Based Learning should replace it in First BHMS?
179 responses



What problems have you faced in the Applied Physiology OPD?
179 responses



CONCLUSION

The provision of 90 hours for Applied Physiology OPD during the first year of BHMS is a severe limitation. Students in this phase are primarily studying basic clinical examination abilities, such as the General and Systemic examinations, and need ample time to practice these fundamental skills. However, the existing curriculum does not provide for enough practice time because first-year coursework includes a variety of other subjects. Furthermore, the allotted 52 weeks of clinical exposure do not provide enough opportunities for students to interact with patients in an OPD setting. Furthermore, the National Commission for Homeopathy (NCH) has not issued particular rules for the OPD component, therefore faculty must adapt to the facilities available at their different schools. These problems, together with student feedback, highlight the need for induction of Case Based Learning (CBL). Therefore, we propose replacing the Applied Physiology OPD with a 90-hour Case-Based Learning (CBL) program within the CBDC framework for first-year BHMS students. This modification aims to enhance the learning experience by providing a more structured and focused approach. Further research is warranted to assess the efficacy of this proposed change, and this article represents an initial step toward addressing these concerns.

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